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10/539,196	06/17/2005	David R Evoy	US02 0617 US	2385

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EXAMINER
VAUGHAN, MICHAEL R

ART UNIT	PAPER NUMBER
2431	

NOTIFICATION DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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ip.department.us@nxp.com

	Application No.	Applicant(s)
Office Action Summary	10/539,196	EVOY, DAVID R
	Examiner	Art Unit	
	MICHAEL R. VAUGHAN	2431	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>22 December 2008</u>.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-12 and 14-40</u> is/are pending in the application.

   4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-12 and 14-40</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>12/22/08</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

   Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   a)☐ All   b)☐ Some * c)☐ None of:

   1.☐ Certified copies of the priority documents have been received.

   2.☐ Certified copies of the priority documents have been received in Application No. _____.

   3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

   * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
     Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
     Paper No(s)/Mail Date. _____

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

The instant application having Application No. 10/539,196 is presented for examination by the examiner. Claims 1-12, 14-40 are pending. Claims 13 and 41-45 have been canceled. Claims 1-4, 7-9, 11-12, 14-17, 19, 21, 23-25, and 32-35 have been amended. The action is in response to the amendments filed 12/22/08 and the interview conducted with Applicant's representatives on 1/06/09. During that interview it was agreed to that Applicant would submit a supplemental amendment based on our discussions. Examiner phone and left a voice message for Patrick Wamsley on 2/4/09 to inquire whether or not they were still intending on filing the supplemental amendment. Examiner received no reply therefore this action will respond to the amendments and arguments filed 12/22/08.

Response to Amendment

Drawings

The newly filed drawings are deemed acceptable and therefore the objection is withdrawn.

Specification

The amendments to the specification are deemed acceptable and therefore the objection is withdrawn.

Claim Rejections - 35 USC § 101

Cancellation of claims 13 and 45 render the previous rejection moot.

Claim Rejections - 35 USC § 112

The instant amendments overcome the previous rejection.

Response to Arguments

Applicant's arguments filed 12/22/08 have been fully considered but they are not persuasive. Amendments to the independent claim are directed to a negative limitation which implies that the claimed invention is unable to be bypassed or disabled. Examiner has interpreted this limitation to declare the claimed invention unhackable or infinitely secure. With no evidence to this claim and the precedent that history has shown *inter alia*, given enough time, secure systems are eventually broken, Examiner cannot assign this limitation any patentable weight. In light of this interpretation, Applicant's arguments are rendered moot. However, the claims have been fully reconsidered.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-12, 14-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishiguro et al. (EP 0,875,813 A2) in view of Paskins et al. (EP 0,952,733 A2), Mowery et al. (US 2003/0081391 A1), and Abbott et al. (US6,141,324).

With respect to claim 1, Ishiguro teaches the limitation of "a first integrated circuit, the first integrated circuit including a first logic block configured to generate a data stream" (Fig. 3 and 10; page 6, line 19) as the firmware that transmits data to personal computer.

In addition, Ishiguro teaches the limitation of "a first integrated circuit, the first integrated circuit including a hardware encryption circuit coupled to the first logic block and configured to encrypt the data stream to generate an encrypted data stream" (Fig. 3 and 10; page 2, lines 36-37) as enciphering means for enciphering data.

Additionally, Ishiguro teaches the limitations of "a second PCI- Express-compatible interface circuit coupled to the PCI-Express-compatible interconnect to receive the encrypted data stream over the dedicated encrypted virtual channel, the second PCI-Express-compatible interface including a plurality of channel interconnects, each associated with a virtual channel among the plurality of virtual channels" and "a hardware decryption circuit coupled to a first channel interconnect among the plurality of

channel interconnects for the second PCI-Express-compatible interface circuit and configured to decrypt the encrypted data stream" (Fig. 3 and 10; page 2, lines 47-48) as receiving means for receiving enciphered data and deciphering means for deciphering data.

Further, Ishiguro teaches the limitation of "a second logic block coupled to the hardware decryption circuit and configured to use the decrypted data stream" (Fig. 3 and 10).

Finally, Ishiguro teaches the limitation of "control logic coupled to at least one of the first and second PCI-Express- compatible interface circuits and configured to communicate authorization data over the default virtual channel to authorize secure communication between the first and second integrated circuits over the dedicated encrypted virtual channel" (Fig. 3; page 5, lines 19-22) as firmware and a license manager carrying out the authentication procedure between one of software programs stored in the ROM of the DVD and one of software programs stored in the ROM of the personal computer.

It is noted, however, that Ishiguro does not explicitly teach the limitations of "a PCI-Express-compatible interface circuit configured to support data communication over a plurality of PCI-Express virtual channels", "wherein the first PCI-Express-compatible interface circuit includes a plurality of channel interconnects, each associated with a virtual channel among the plurality of virtual channels", "wherein a first channel interconnect among the plurality of virtual channels is coupled to the hardware encryption circuit to receive the encrypted data stream", and "wherein the first PCI-

Express-compatible interface circuit is configured to communicate the encrypted data stream from the hardware encryption circuit over the dedicated encrypted virtual channel."

On the other hand, Ishiguro teaches that the interconnection for the elements of his invention is provided through the 1394 bus through 1394 interface (page 4, lines 47-48).

In addition, Paskins teaches a transport stream interface in which various virtual channels are time-multiplexed (column 1, paragraph 0003) which is implemented on IEEE 1394 Serial Bus (Abstract).

It is further noted that neither Ishiguro not Paskins teach the limitation of "PCI-Express-compatible interface circuit."

However, Mowery teaches this limitation (page 2, paragraph 0023) as the present invention is operable with other technical standards. For example, rather than USB or USB 2.0, the present invention is also operable with Institute of Electrical and Electronics Engineers (IEEE) 1394 (FireWire), Ethernet, and serial and parallel communications ports, peripheral components interconnect (PCI), PCI-X, and PCI-Express to list a few.

Furthermore, it is noted that Ishiguro does not explicitly teach the limitation of "the plurality of PCI-Express virtual channels includes an unencrypted default virtual channel and a dedicated encrypted virtual channel configured to communicate encrypted data exclusively"

On the other hand, Abbott teaches the abovementioned limitation (Fig. 4; column 8, line 61 – column 9, line 1) as all communications between the modems can be implemented in a dedicated communication channel. This dedicated communication channel can be a dedicated virtual channel, or a dedicated physical channel.

It would have been obvious to one of the ordinary skill in the art at the time of the invention to incorporate teachings Paskins into the system of Ishiguro to provide a higher throughput by multiplexing plurality of channels. Further, it would also be obvious to incorporate teachings of Mowery into the system of Ishiguro and Paskins to provide greater bandwidth and decrease in power consumption. Furthermore, it would have been obvious to one of the ordinary skill in the art to incorporate teachings of Abbott into the system of Ishiguro, Paskins, and Mowery to provide a secure channel for data transfer.

Claims 2-4, 9-12, and 14 are rejected in view of the same reasons stated in the rejection of independent claim 1.

With respect to claims 5-8, Paskins teaches a transport stream interface in which various virtual channels are time-multiplexed (column 1, paragraph 0003) which is implemented on IEEE 1394 Serial Bus (Abstract) that can be used for the throughput control of the system. In addition, Abbott teaches the limitation of dedicated virtual communication channel (Fig. 4; column 8, line 61 – column 9, line 1) that can be used to ensure the security of the data transfers.

Claim 14 are rejected in view of the same reasons stated in the rejection of independent claim 1.

With respect to claims 15-17 and 20-22, they are rejected in view of the same reasons as stated in the rejection of independent claim 1.

With respect to claims 18 and 19, they are rejected in view of the same reasons as stated in the rejection of claims 5-8.

Claims 23-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishiguro et al. (EP 0,875,813 A2) in view of Paskins et al. (EP 0,952,733 A2), and further in view of Abbott et al. (US6,141,324).

With respect to claim 23, Ishiguro teaches the limitation of "re-encrypting the first decrypted data stream in the first integrated circuit to generate a second encrypted data stream" (Fig. 3 and 10; page 2, lines 36-37) as enciphering means for enciphering data.

In addition, Ishiguro teaches the limitation of "communicating the second encrypted data stream from the first integrated circuit to a second integrated circuit" (Fig. 3 and 10; page 6, line 19) as the firmware that transmits data to personal computer.

Finally, Ishiguro teaches the limitation of "decrypting the second encrypted data stream in the second integrated circuit to generate a second decrypted data stream" (Fig. 3 and 10; page 2, lines 47-48) as receiving means for receiving enciphered data and deciphering means for deciphering data.

It is noted however, that Ishiguro does not explicitly teach the limitations of "decrypting a first encrypted data stream in a first integrated circuit to generate a first decrypted data stream", "a multi-channel serial interconnect to which the first and second integrated circuits are connected", and "a dedicated encrypted virtual channel among a plurality of virtual channels supported by the multi-channel serial interconnect".

On the other hand, Paskins teaches the limitation of "decrypting a first encrypted data stream in a first integrated circuit to generate a first decrypted data stream" (Fig. 1) as a path that goes through Demodulator 16, Descrambler 18, and Demultiplexer 20.

In addition, Paskins teaches the limitation of "a multi-channel serial interconnect to which the first and second integrated circuits are connected" (column 1, paragraph 0003) as a transport stream interface in which various virtual channels are time-multiplexed, which is implemented on IEEE 1394 Serial Bus (Abstract).

In addition, Abbott teaches the limitation of "a dedicated encrypted virtual channel among a plurality of virtual channels supported by the multi-channel serial interconnect" (Fig. 4; column 8, line 61 – column 9, line 1) as all communications between the modems can be implemented in a dedicated communication channel. This dedicated communication channel can be a dedicated virtual channel, or a dedicated physical channel.

It would have been obvious to one of the ordinary skill in the art at the time of the invention to incorporate teachings Paskins into the system of Ishiguro to provide a higher throughput by multiplexing plurality of channels. Further, it would have been obvious to one of the ordinary skill in the art to incorporate teachings of Abbott into the system of Ishiguro and Paskins to provide a secure channel for data transfer.

With respect to claim 24, Paskins teaches the limitation of "demodulating a modulated input signal to generate the first encrypted data stream" (Fig. 1) as demodulator 16.

With respect to claims 25 and 26, Paskins teaches the limitation of "decoding the second decrypted data stream in the second integrated circuit to generate a decoded data stream" and "wherein the modulated input signal comprises a satellite broadcast signal, wherein the first encrypted data stream comprises an encrypted MPEG data stream, and wherein decoding the second decrypted data stream in the second integrated circuit comprises performing MPEG decoding on the second decrypted data stream" (Fig. 1) as MPEG Decoder.

With respect to claim 27, it is noted that neither of Ishiguro, Paskins and Abbott teach the limitation of "performing regional access control on the first encrypted data stream."

However, examiner takes the official notice that using the regional encoding to protect the data distributed on DVDs is well known in the art. Therefore, it would have been obvious to one of the ordinary skill in the art at the time of the invention to use such a technique to access data distributed on DVD.

With respect to claim 28, Ishiguro teaches the limitation of "performing subscriber access control on the first encrypted data stream" (Fig. 3; page 5, lines 19-22) as firmware and a license manager carrying out the authentication procedure between one of software programs stored in the ROM of the DVD and one of software programs stored in the ROM of the personal computer.

With respect to claim 29, Paskins teaches the limitation of "the first and second integrated circuits are disposed in a set top box" (Fig. 6; column 16, paragraph 0118) as a device such as a host receiver or Conditional Access Module implementing a Command Interface over an IEEE 1394 Serial Bus.

With respect to claim 30, Paskins teaches the limitation of "the first integrated circuit is disposed on an access card coupled to the second integrated circuit via a connector" (column 10, lines 41-44) as the DVB Common Interface has been designed with a layered architecture to allow new physical layers (for example the smart card form factor).

With respect to claim 31, it is rejected in view of the same reasons stated in the rejection of independent claim 23.

With respect to claims 32-40, they are rejected in view of the same reasons stated in the rejection of claims 23-31

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the date of this final action.

        Any inquiry concerning this communication or earlier communications from the

examiner should be directed to MICHAEL R. VAUGHAN whose telephone number is

(571)270-7316. The examiner can normally be reached on Monday - Thursday, 7:30am

- 5:00pm, EST.

        If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Kim Vu can be reached on 571-272-3859. The fax phone number for the

organization where this application or proceeding is assigned is 571-273-8300.

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/M. R. V./

Examiner, Art Unit 2431

/Syed   Zia/

Primary Examiner, Art Unit 2431